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UNITED STATES PATENT AND TRADEMARK OFFICE

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09/540,178	03/31/2000	Stephen R. Vogel	DIVA-244	2614

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EXAMINER
MANNING, JOHN

ART UNIT	PAPER NUMBER
2614	

DATE MAILED: 12/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☒ This action is **FINAL.**   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14 and 26* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14 and 26* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____ .

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____ .

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____ .

DETAILED ACTION

Response to Arguments

1.   Applicant's arguments filed October 3, 2005 have been fully considered but they are not persuasive.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Applicant states "[n]one of the references in the combination, i.e., Edmonds, Imanaka, and Sawicz, teach or suggest a video distribution system including a head-end and associated subscriber equipment". A head-end, which is merely a central control device for providing centralized functions, is evident in Edmonds, Figure 3, Servers 150 and 152. Further, Edmonds discloses that other "suitable network architectures may be used". Applicant admits, "Sawicz discloses a multi-stage switch for routing information signals form a headend to connected terminal end unit". Sawicz is clearly directed towards video distribution.

Applicant states "Sawicz differs from the claimed video switch that is coupled to each server module at the head-end for forwarding the requested content from the server modules to the subscriber equipment. By contrast, the video switch in Sawicz does not forward the requested content to subscriber equipment, but instead forwards information signals to connected terminal end unit in the aircraft or vehicle". The

examiner interprets a terminal end unit and subscriber equipment to be functionally

equivalent. A subscriber is merely the recipient of a service. Sawicz discloses a

terminal end unit for providing video to a user (i.e. a subscriber).

Applicant also states "Sawicz does not disclose the claimed communication

between the head-end controller and the server module that is coincidentally sent

through the at least two signal paths. By contrast, Sawicz does not disclose sending the

information signals through the same signal pals at the same time, but instead is

directed towards avoiding blocking". The Office Action does not rely upon Sawicz for

this recited limitation (See Imanaku, Figure 1; Col 4, Lines 10-20).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

2.   Claims 1-10 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Edmonds et al (6,412,079) in further view of Imanaka (EP0854610) and Sawicz et

al (5,889,775).

Regarding Claim 1, Edmonds shows an apparatus having redundant

provider equipment for improving fault tolerance comprising a server (fig. 5 items

214 and 218), comprising a plurality of server modules for storing content (col. 4

lines 10-37, RAID storage device), a switch coupled to each of the server

modules at the head end for forwarding requested content from at least one of

the plurality of server modules to the subscriber equipment (fig. 5 items 210 and

212, col. 7 lines 25-35, switches), and a plurality of head-end controllers coupled

to each server module of the plurality of server modules via at least two signal

paths (fig. 5 items 216 and 220, director, col. 7 lines 25-55, director for providing

load balancing algorithms). Although Edmonds shows at least two signal paths

between the server modules (fig. 5), Edmonds fails to specifically state that each

communication between a head-end controller and a server module is

coincidentally sent through the two signal paths. Imanaka shows that each

communication between a server node another control module is coincidentally

sent between two signal paths (fig. 1, col. 4 lines 10-20, transmission data from

servers are concurrently sent to both communication lines 1 and 2). It would

have been obvious to one of ordinary skill in the art at the time the invention was

made to modify Edmonds with the ability to coincidentally send two signals

through two signal paths, as shown in Imanaka, so that the system would ensure

signal reception as well as provide robust communications.

Although Edmonds shows sending digital data through switches,

Edmonds and Imanaka fail to show that the switch is a video switch. Sawicz

shows sending video data through a video switch in a redundant system (col. 7

lines 10-41, series and stages of video switches). Therefore, it would have been

obvious to one of ordinary skill in the art at the time the invention was made to

modify the system of Edmonds and Imanaka with a video switch, as shown in Sawicz, to provide the users with a wide range of data types.

Regarding Claim 2, Edmonds further shows that a plurality of subscriber equipment is capable of interfacing with the at least one head-end controller and server for receiving information upon request (see figure 5 items 200, 202). Edmonds fails to show that this data is video data. Official Notice is taken that it is well known and expected in the art to send video data across a network. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Edmonds with the ability to send video data to provide the users with a wide range of data types.

Regarding Claim 3, Edmonds shows at least two switches coupled between the at least one head-end controller and the server modules (see figure 5 items 210, 212).

Regarding Claim 4, Imanka shows the ability to send redundant messages across a network to a server module and the ability to discard messages that have been already received (col. 5 lines 2-25, identical reception data sent, either of the data which is received later is discarded). Furthermore, these signals must travel through switches, controllers, and servers since they are being sent through a large network (see fig. 1).

Regarding Claim 5, Imanaka shows disregarding either the initial or redundant message (col. 5 lines 2-25, identical reception data sent, either of the data which is received later is discarded).

Regarding Claim 6, Imanaka further shows that multiple acknowledgement data is routed from one server module to another controller (col. 7 lines 45-67, col. 8 lines 1-26, abnormality detection process, pieces of identification information and received data and pieces of corresponding reception time information are registered in system-A queue and system-B queue). Imanaka shows disregarding either the initial or redundant message (col. 5 lines 2-25, identical reception data sent, either of the data which is received later is discarded).

Regarding Claim 7, Imanaka shows disregarding either the initial or redundant message (col. 5 lines 2-25, identical reception data sent, either of the data which is received later is discarded).

Regarding Claim 8, Edmonds shows that the switch has a plurality of I/O ports coupled to the server modules and subscriber equipment for transferring the information (see figure 5 item 210). Edmonds further shows a least two switch controllers coupled to a head-end controller (see figure 5 items 210, 212, 214, 216, 218, 220) and the I/O ports, wherein the one of two switch controllers serves as a primary switch controller for routing the information between the I/O ports, and a second switch controller serves as a secondary switch controller for monitoring status of the I/O ports, whereby the secondary switch controller initiates a switchover in a an instance of a failure (col. 7 lines 23-67, col. 8 lines 1-13, col. 2 lines 1-27, 35-50).

Regarding Claim 9, Edmonds shows that the switch controller, or director, is coupled to the head-end controller, or server, via on of the switches and the second controller is coupled to the server via second switch (see figure 5 items 210, 214, 216, col. 7 lines 25-55). Edmonds states that the Web server may provide 'system management,' which executes processes of a head-end controller (col. 7 lines 30-33). Sawicz further shows connecting the server and controllers with a number of video switches (fig. 6, col. 7 lines 7-40, three stages of video switches).

Regarding Claim 10, all the limitations of the claim have been discussed with regards to Claim 9.

Regarding Claim 26, Edmonds further shows a plurality of access controllers coupled to each head-end controller and said video switch (fig. 5 items 216, 220, directors used for client load balancing), said access controllers for forwarding said requested content from said video switch to said subscriber equipment in response to a request for content from said subscriber equipment (col. 7 lines 5-55, director providing web content through router, switch, and Web server when request by user).

3.   Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Edmonds et al (6,412,079) in further view of Imanaka (EP0854610), Sawicz et al (5,889,775), and Deitz et al (6,412,079).

Regarding Claim 11, although not specifically stated, it is nonetheless inherent that there must be a switch processor within the switch for processing

control commands between the head-end controllers and switch controllers, and between the controllers and the I/O ports. This is inherent to all digitally controlled switches so that they may function properly in routing signals to a designated location. Sawicz further shows connecting the server and controllers with a number of video switches and a switching matrix (fig. 6, col. 7 lines 7-40, three stages of video switches).

Edmonds fails to show a timer for periodically querying the operational status of the controllers. Deitz shows a 'pinging' system that periodically queries controllers to see if the controllers are operational (col. 7 lines 30-50). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Edmonds, Imanaka, and Sawicz with the ability to query the switch controllers, as shown in Dietz, so that the system would know when a switch has failed and the status of an operational switch.

4.   Claims 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Edmonds et al (6,412,079) in further view of Imanaka (EP0854610), Sawicz et al (5,889,775), Deitz et al (6,412,079), and Miyamoto et al (5,845,061).

Regarding Claim 12, Deitz shows the ability to send periodic messages, or pinging, to controllers and the ability to indicate a problem when a certain time elapses. Furthermore, if these messages are periodic, it is inherent that there is some type of timer coupled to the sending apparatus (col. 6 lines 64-67, col. 7 lines 30-50). Also, although not specifically stated, it is inherent that the system must have a control registers to receive and store commands from the switch

controller. Without this equipment, the system would not route signals properly or execute commands correctly. Edmonds and Deitz fail to show a plurality of status registers. Miyamoto shows status registers that store the state of the system controllers to indicate whether or not that section of the system is operational or has failed (col. 11 lines 15-60). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Edmonds, Imanaka, Sawicz, and Deitz with the status registers so that the system would be able to store the condition of the system for reference.

Dietz and Miyamoto also fail to show the use of a memory table for storing routing addresses. Official Notice is taken that it is well known and expected in the art to use tables to store the routing addresses of components in a network. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include memory tables so that the system would know the proper destination to send messages.

Regarding Claim 13, Miyamoto further shows pinging, or polling messages, to the system for information (col. 11 lines 1-14). Furthermore, it is inherent that there are control registers storing information about the system. Miyamoto further shows setting status registers with the appropriate information regarding the operational status of the system. Also, Miyamoto shows that if the status of the system is "occurrence of fault" then a back up system initiates (col. 11 lines 1-67, col. 12 lines 1-67). It is also inherent that the status of the system is stored as bits.

Regarding Claim 14, Miyamoto further shows polling messages to the system for information (col. 11 lines 1-14). Furthermore, it is inherent that there are control registers storing information about the system. Miyamoto further shows setting status registers with the appropriate information regarding the operational status of the system. Also, Miyamoto shows that if the status of the system is "occurrence of fault" then a back up system initiates (col. 11 lines 1-67, col. 12 lines 1-67). It is also inherent that the status of the system is stored as bits. Deitz also shows registering an error if an elapsed time has occurred between polling messages (col. 6 lines 64-67).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Manning whose telephone number is 571-272-7352. The examiner can normally be reached on M-F: 9:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John W. Miller can be reached on 571-272-7353. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JM
December 16, 2005

JOHN MILLER
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